PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Restore And Enhance Anadromous Fish Populations & Habitat In Salmon Creek

BPA project number: 9604200
Contract renewal date (mm/yyyy): 1/1999 ☒ **Multiple actions?**

Business name of agency, institution or organization requesting funding
Colville Confederated Tribes

Business acronym (if appropriate) CCT

Proposal contact person or principal investigator:

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NPPC Program Measure Number(s) which this project addresses
Sections 4.0A, 4.0C, 4.1, 4.1A, 7.6A, 7.6B.1,7.6B.3, 7.6B.6, 7.6C5, 7.6D 7.7A.3, 7.7A.6, 7.7B, 7.8D.1, 7.8E, 7.8E.2

FWS/NMFS Biological Opinion Number(s) which this project addresses
Upper Columbia Summer Steelhead ESA Listing

Other planning document references
Wy Kan Ush Me WA Kush Wit, Volume II Sub-basin Plans, Okanogan River, Recommended Actions, Subset 2, Page 91
NWPPC Sub-basin Plans, Okanogan Basin

Short description
Protect/restore/enhance fish habitat for all life stages of anadromous fish in SC through continued studies and partnerships with the Okanogan Irrigation District, government agencies and private landowners.

Target species
Steelhead and Chinook Salmon

Section 2. Sorting and evaluation

Subbasin
Upper Mid-Columbia, Okanogan, Salmon Creek

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
☒ Anadromous fish ☐ Resident fish ☐ Wildlife	☐ Multi-year (milestone-based evaluation) ☒ Watershed project evaluation	☒ Watershed councils/model watersheds ☐ Information dissemination ☐ Operation & maintenance ☐ New construction ☒ Research & monitoring ☐ Implementation & management ☒ Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1997	Initiated the coordination of a watershed planning project to assist with the restoration and enhancement of the basin's anadromous fish resources through a locally-developed and integrated planning process	
1998	Negotiated a crucial partnership agreement with a primary stakeholder group (the Okanogan Irrigation District) from 1997-1998	
1998	Initiated a joint study with the Okanogan Irrigation District to assess the feasibility of providing instream flows in Salmon Creek below the district's diversion dam while maintaining the irrigation district's water rights: Study--Phase I	
1998	Developed a scope of work & recruited engineers/scientists to: study conserva-tion options for the irrig. district, quantify the instream flows requirements for all life stages of	

	anadro. fish in Salmon Creek, develop alternatives to meet these goals	
1999	Environmental/Engineer. consultants conducted a study, prepared a report identifying water conservation options, quantifying instream flow requirements, protecting irrigators' water rights, iden-tified alternatives to meet these goals: Study/Phase I	
1999	The Tribes partnered with the NRCS to conduct a riparian corridor assessment: made recommendations for improving bank stability, fish habitat, water quality	
1999	Developed a partnership with the U.S. Fish and Wildlife Service and the NRCS to undertake demonstration projects by identifying willing private landowners who could contribute to habitat restoration by restoring the riparian zone on private lands	
1999	Initiated partnerships with the Bur. of Rec., the BLM, the WDF&W to perman-ently protect sensitive riparian lands through land exchanges, conservation easements or fee simple acquisitions.	

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Continue partnership between Okanogan Irrigation District & Colville Tribes: The partners hire a consultant to assess the feasi-bility of increasing instream flows while maintaining OID water rights	a	Continue regular partnership efforts to oversee FY1998-99 Joint Study Phase I between the Tribes and the District: Phase I of the study out-lines mutlitple alternatives to a-chieve the objective of increased instream flows/protect. OID water rights
		b	Continue partnership with OID to initiate Phase II of the feasibilility study (Phase II is a study in greater depth of a preferred alternative, chosen by the partners from Phase I
		c	Continue to meet to oversee FY2000 Joint study to have consultant conduct Phase II of the feasibility study (Phase II is a refined study of a preferred alternative chosen by the partners from joint study Phase I)
		d	Hire environmental/engineering consulting firm to develop Phase II of the feasibility study & conduct NEPA analysis
		e	Conduct tour of Salmon Creek & OID with state, federal & tribal governments; local, state, & federal officials to promote joint OID/CCT partnership efforts & seek funding for implementation of joint study
2	Continue partnerships with agencies to	a	Carryover from FY1999: Work with the

	work with private landowners on demonstration projects (US Fish & Wildlife Svc. & Natural Resources Conservation Svc.)		USF&W & NRCS to undertake demonstration projects to stabilize streambanks and restore habitat on private lands
3	Continue partnership with NRCS to implement actions outlined in their FY1999 Salmon Creek riparian assessment	a	Begin implementation of projects that may include: bank stabilization, plantings, exclusionary fencing, structures, spring development or passive restoration
4	Hire a facilitator to work with the watershed coordinator to plan and facilitate public outreach activ-ities	a	Invite SC landowners to meetings: Discuss formation of a landowner steering committee or watershed council
		b	Meet with public and private land-owners to explain studies underway, future studies and prioritize projects for implementation
		c	Work with NRCS to undertake restoration activities on the ground (may include instream structures, vegetation, labor & equipment)
5	Contract with agencies who already own and manage lands within the watershed to negotiate with private landowners for con-servation easements, land ex-changes or fee simple acquisitions (WDF&W, Bureau of Reclamation, Bureau of Land Management)	a	Work with agencies to identify critical parcels to fish and riparian habitat; identify landowners who may be interested in land exchanges, conservation easements or fee simple acquisitions
6	Develop a Salmon Creek Watershed Plan	a	Work with landowners & facilitator to develop a scope of work
		b	Advertise, recruit & select a qualified consultant to both work w/committee to identify data gaps, develop plan, conduct field studies & prepare report

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	10/1999	9/2000	Identification of how to increase instream flows	Phases I &II Joint OID/CCT Study Completed	202000
2	3/1999	11/2000	Demonstration projects: improvement to riparian area and fish habitat	Projects com-pleted: carryover from FY1999	0
3	3/1999	9/2000	Stabilized stream banks, excluded livestock, planted native woody vegetation	Projects completed	100000
4	10/1999	9/2000		Facilitate meetings	25000
5	10/1999	12/2000	Yes: acquired lands in riparian area	Land transactions completed	1850000
6	10/1999	6/2001		Watershed plan completed	100000
				Total	22770000 0.00%

Schedule constraints
Unforeseen circumstances or timing of spring runoff could alter the schedule for conducting field studies leading up to FY2000. Projects & future studies would not be delayed for more than 4-6 months.

Completion date
12/2001

Section 5. Budget

FY99 project budget (BPA obligated): $175,000

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel		%2	41,361
Fringe benefits		%1	12,408
Supplies, materials, non-expendable property		%0	1,500
Operations & maintenance		%0	0
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		%76	1,850,000
NEPA costs		%2	50,000
Construction-related support		%0	0
PIT tags	# of tags:	%0	0
Travel		%1	12,300
Indirect costs		%1	16,214
Subcontractor	OID Staff, Environmental & Engineering consultants Phase II OID/CCT Joint Study, Facilitation, NRCS	%18	427,000
Other	Training, Telecommunications, Postage, printing, rentals	%1	17,200
		TOTAL BPA FY2000 BUDGET REQUEST	$2,427,983

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount ($)
Bureau of Reclamation	Funding of easement or acquisition as well as ap-praisal and real estate agency services	%2	50,000
		%0	
		%0	
		%0	
		Total project cost (including BPA portion)	$2,477,983

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	$2,000,000	$500,000		

Section 6. References

Watershed?	Reference
☐	Hansen, J. 1995. Abundance and quality of salmonid fish spawning habitat in Salmon Creek, Washington. Colville Confederated Tribes. Nespelem, Washington. 9 pages
☐	Fisher, C.J. and L. Fedderson. 1998. Quantity of spawning habitat for summer steelhead and spring chinook salmon and estimate of production in Salmon Creek, Washington. Colville Confederated Tribes. Nespelem, Washington
☐	Mullan, J. W., K. R. Williams, G. Rhodus, T. W. Hillman, and J. D. McIntyre. 1992. Production and habitat of salmonids in Mid-Columbia River tributary streams. U. S. Fish and Wildlife Service. Monograph 1. Leavenworth, Washington
☒	Aquatic species and habitat assessment of the Wenatchee, Entiat, Methow and Okanogan Watersheds for the mid-Columbia Habitat Conservation Plan, Draft. 5/28/96.
☐	Smith, A.K. 1973. Development and application of spawning velocity and depth criteria for Oregon salmonids. Transactions of the American Fisheries Society 102:312-316
☐	Timber/Fish/Wildlife (TFW) Ambient monitoring stream segment summary (Salmon Creek). 1992. Colville Confederated Tribe. Nespelem, Washington
☐	Thompson, K. 1972. Determining stream flows for fish life. Pages 31-50 in Proceedings, instream flow requirements workshop. Pacific Northwest River Basins Commission, Vancouver, Washington.
☐	Bureau of Reclamation, Fish Passage & Protective Facilities, Pre-design Memorandum, Salmon Creek Main canal Fish Ladder, Aug. 1998
☐	Bureau of Reclamation, Fish Passage and Protective Facilities, Pre-design Memorandum, Salmon Creek Main Canal Fish Screen Modifications, July 1998.
☐	U.S. Fish and Wildife Service, Preliminary Evaluation Report, January 1949 (Fish & Wildlife Resources in the Area of the Okanogan Irrigation Project).
☒	Columbia Basin System Planning Production Plan for Salmon and Steelhead, Methow and Okanogan River Sub-basins, Sept. 1, 1990
☒	Okanogan National Forest, Tonasket Ranger District. April 1997. Salmon Watershed Assessment, I-1.
☒	Natural Resources Conservation Service (NRCS). 1995. Omak Creek Watershed Plan/Environmental Assessment. United States Dept. of Agriculture. Spokane, Washington. 54 pages
☐	Washington State Dept. of Natural Resources, GIS Map of Salmon Creek Land Ownerships, June 1997.
☐	Okanogan Irrigation District/ Colville Confederated Tribes: Letter of Intent to negotiate the terms of a partnership, February 12, 1998.
☐	Partnership offer letter from Colville Tribes to Okanogan Irrigation District, May 6, 1998
☐	Letter of Acceptance of Partnership offer, May 16, 1998
☐	Support of planning activities for the restoration and enhancement of anadromous fisheries in Salmon Creek, correspondence from fisheries managers: WDF&W, USF&W, BLM, 1997.
☐	Correspondence stating interest in to providing permanent protection to the riparian corridor in Salmon Creek through land exchanges, conservation easements or fee simple acquisitions, from WDF&W, USF&W, BOR, Nov. 1998
☐	Yates, H.A. 1968. A Pioneer Project. Metropoitan Press, Portland, Oregon

PART II - NARRATIVE

Section 7. Abstract

Background:—A Focus on Partnerships: The Colville Confederated Tribes have focused on restoring and enhancing anadromous fish populations and habitat in Salmon Creek through partnerships since April of 1997.

A Partnership with the Okanogan Irrigation District (OID): For the past 90 years, the OID has diverted 100% of the stream flows from Salmon Creek leaving 3.5 miles below the diversion to the mouth of the creek dry most of the year. In May of 1998 the Tribes formed a partnership with the Okanogan Irrigation District to look at increasing instream flows below the diversion dam. The purpose of this partnership is to study the feasibility of restoring anadromous fish populations in Salmon Creek, a tributary to the Okanogan River below Conconully Dam, while affording the OID the ability to fulfill water delivery service in accordance with its water rights.

In 1998-99 the partners conducted a joint study and hired environmental an engineering consultants to undertake the work (Phase I). The consultant(s) conducted on-farm soil tests to determine whether or not water usage is appropriate for the crop grown, assessed the conveyance facilitities, reviewed and completed a draft OID water conservation plan, and make recommendations for additional water conservation improvements. In addition, the consultant conducted an Instream Flow Incremental Methodology (IFIM) and quantified the amount of stream flows necessary to support all life stages of anadromous fish. The consultant then developed a range of alternatives on how to increase instream flows, below the OID's diversion dam, to meet the requirements of all life stages of anadromous fish, while maintaining the irrigators' water rights. The consultants will have completed a final report in summer of 1999. The report will include cost estimates for each alternative. However, FY2000 funds are requested to conduct Phase II of this study, which would include an environmental and engineering analysis of one or more alternatives selected by the partners as well NEPA analysis.

A Partnership with the Natural Resources Conservation Service (NRCS): In 1999 the NRCS conducted a physical stream survey to assess the riparian corridor located between the Conconully Reservoir and the mouth of Salmon Creek in March of 1999. The NRCS' inventory will include:

- A geomorphic classification of the stream
- Identification of riffles to pools
- Presence or absence of large woody debris
- Identification of streambank erosion areas
- Riparian vegetation survey
- Examination of spawning gravel recruitment
- Identification of alternatives for treatment

The NRCS report outlined recommendations and alternatives for improvements to the riparian corridor, fish habitat, water quality and streambank stability. In FY2000 we request funding to form a landowner steering committee. The committee will prioritize projects on private lands and will develop a much broader watershed plan. Also in

FY2000 the NRCS will develop a plan to monitor and evaluate reference reaches in Salmon Creek

A Partnership with the U.S. Fish &Wildlife Service & the NRCS: Both agencies have partnered with the tribes to identify willing private landonwers to demonstrate how bio-engineering and structual methods can reduce streambank erosion creating benefits to the landowners as well as for fish habitat by reducing sedimentation.

A Partnership with the Bureau of Reclamation, the Bureau of Land Management and the Washington State Dept. of Fish and Wildlife: The Colville Tribes request FY2000 funding to allow one or more of these agencies to permanently protect fish habitat and the riparian corridor by acquiring parcels through land exchanges, conservation easements or fee simple acquisitions. All of these agencies already own and manage lands in Salmon Creek. Long-term management would be provided by the agency who obtains the deed or easement.

Convene a Landowner Steering Committee in FY2000:
Identify landowners willing to partipate in a committee responsible for developing and approving a watershed plan, conduct outreach activities to other landowners and prioritize projects in a way that engages the larger community in restoration efforts.

Expected Results:

I. Three Reports: 1) Phase I of the OID/CCT Joint study will identify a range of alternatives for improving instream flows. The Colville Tribes and the Okanogan Irrigation District anticipate that one of those alternatives will be scientifically sound and amenable for implementation. Funding to further refine the preferred alternative is being sought from FY2000 funds as Phase II of the study. The refined study would include any capital or construction costs, timeframes, NEPA analysis, environmental and social benefits, operation and maintenance, etc. 2) The NRCS' stream survey would identify remedies for improving the health of the riparian corridor to provide benefits for all life stages of anadromous fish. The Tribes request FY2000 funds to implement some of the alternatives identified in this plan. 3) A Salmon Creek Watershed Plan that will make recommendations to improve the health of the entire watershed, bridging the gap between land use activities and the riparian corridor.

II. Conservation easements, land exchanges, or fee simple acquisitions will be negotiated to provide permanent protection on approx. 2,200 acres of land adjacent to 4 miles of Salmon Creek.

III. FY2000 funds are requested to implement priority recommendations identified in the NRCS riparian assessment described above.

IV. Habitat improvement demonstration projects on private lands.

Section 8. Project description

a. Technical and/or scientific background

Salmon Creek Background & Historical Problems
Salmon Creek, a tributary of the Okanogan River, is located in north central Washington along the eastern slopes of the North Cascades and west of the Okanogan River. It lies about 22 miles south of the Canadian-United States border and 15 miles northwest of Omak, Washington.

Salmon Creek originates in the Tiffany Mountain area above the Town of Conconully, located approximately fifteen miles northwest of the City of Okanogan in Washington State. The North and West Forks of Salmon Creek flow into and are stored in Conconully Reservoir, with a capacity for 13,000 acre feet of storage. A substantial portion of the flow of the North Fork of Salmon Creek is stored in Salmon Lake, located immediately above the Conconully Reservoir, with a capacity of 10,500 acre feet of storage. All surface water from the watershed flows into either Conconully Lake or Conconully Reservoir,

which are the main water impoundments for the watershed and distribution points for the Okanogan Irrigation District (OID). Each year the full flow of Salmon Creek is diverted from the creek into the district's main line approximately 11 miles downstream of the reservoir at a diversion dam located approximately 3.7 miles above the confluence of Salmon Creek and the Okanogan River.

Irrigation:

Water stored in the Cononully and Salmon Lake Reservoirs is released and flows approximately 14 miles southeast where it joins the Okanogan River. At approximately 11 miles below the Conconully Reservoir, the OID diverts 100% of the streamflow for irrigation purposes, except during the years of high spring runoff, where the overflow runs down the creek to the Okanogan River. The lower 3.5 miles of the creek are dewatered most of the year. The two barriers for anadromous fish are 1) the dewatered channel, which prevents anadromous fish from migrating from the Okanogan River to access quality spawning and rearing habitat upstream of the OID diversion dam, and 2) the height and the lack of a plunge pool below the irrigation district's diversion dam presently its make it impossible for fish to make it over the dam to access upstream spawning and rearing habitat. Salmon Creek was listed in Washington State Department of Ecology's 1998 Proposed Section 303(d) List (Impaired and Threatened Waterbodies Requiring Additional Pollutions Controls).

Historical Populations of Anadromous Fish:

The Salmon Creek watershed is approximately 167 square miles in size and is a unique tributary of the Okanogan River because it provides cool water (northeast aspect) in a basin that contains predominately warm water temperatures, and has historically contained renowned runs of anadromous fish (Mullan et al. 1992). "Salmon Creek is so important to the anadromous salmonids in the Okanogan watershed because it contains the only cold water in that watershed, enabling it to support spring chinook in addition to steelhead and summer chinook. Though physically small, this creek was a unique and productive system before it was emasculated." (Ken Williams, correspondence, 8/18/97). "Prior to construction work of the Bureau of Reclamation in 1920, Salmon Creek had a very significant fishery value. Trout fishing was considered fair, and local residents fished the area extensively. Salmon Creek's greatest fishery value, however, was attributed to the excellent runs of steelhead trout and spring chinook salmon which utilized its extensive spawning areas. The anadroumous fish runs which frequented Salmon Creek utilized practically the entire stream system, ascending both west and south forks. There is little doubt that the runs were of considerable size. Numerous fish traps were installed and operated by members of the nearby Okanogan Indian Tribe. Local white residents took the fish in consideral numbers for home consumption. With the exception of limited spawning areas in Canada above Lake Osoyoos and a few small bars in the lower Okanogan River near Monse, Washington, Salmon Creek had the only other suitable spawning grounds of any size in the entire Okanogan system." (Fish and Wildlife Service Preliminary Evaluation Report on the Fish and Wildlife Resources in the area of the Okanogan Irrigation Project, January 1949).

Fisheries Studies on Habitat in Salmon Creek

Because of Salmon Creek's uniqueness and potential to strengthen existing anadromous stocks in the Okanogan River Basin, several habitat and fisheries surveys have been conducted. In 1992 the Colville Confederated Tribes conducted a survey assessing the physical habitat (LWD, canopy closure, pool frequency) in a 34km reach, upstream of the diversion dam, in Salmon Creek. The results of this survey indicated physical habitat rated good overall, with physical habitat improving further upstream (TFW Ambient Monitoring, CCT, unpublished data). Canopy closure exceeded 70% in 3 of 6 reaches, pool frequency was greater than 35% in 4 of 6 reaches, and large wood (in channel) was in greater frequency than the target value in all 6 reaches (TFW Ambient Monitoring, CCT, unpublished data). In addition in 1995, Hansen (1995, CCT, unpublished data) conducted a survey of the spawning habitat in Salmon Creek. Based upon substrate samples and incorporating the Fredle Index, Hansen (1995, CCT, unpublished data) found an estimated 3,477 m^2 of suitable substrate for anadromous fish (only 3% suitable for resident fish species) in the forested region of the lower reaches in Salmon Creek and a predicted survival-to-emergence

of 94.3%. This indicates that the spawning habitat in Salmon Creek may be underutilized by the current fish community and the re-establishment of anadromous stocks would unlikely contest for spawning habitat with resident fish species. More recently, Fisher and Fedderson (1998, CCT, unpublished data), sampled the quantity of spawning habitat in a 4 mile reach of Salmon Creek based upon steelhead and spring chinook salmon spawning preferences of substrate size, water depth, and water velocity (Smith 1973; Thompson 1972). The results of the survey indicate more productive spawning habitat in the upstream reaches of Salmon Creek. Also, preliminary estimates of smolt production within pool-tail out regions indicate this four-mile reach of Salmon Creek has the potential to produce greater than 90,000 summer steelhead and 123,000 chinook salmon smolts at a survival-to-emergence of 10%. Also, the Habitat Conservation Plan for the Mid-Columbia River (draft) identifies the fish passage improvement for Salmon Creek "is both institutionally and logistically feasible and should be strongly considered."

Crucial Restoration Work Already Underway

As stated above, one of the two impediments to fish passage is the OID diversion dam. The Bureau of Reclamation has designed plans to install a fish ladder at the diversion dam in 1999. In addition the Bureau is working with WDFW to make improvements to the fish screen located on the irrigation canal below the diversion dam. Both of these actions will provide positive benefits for anadromous fish populations in Salmon Creek (Pre-design Memoranda, July and August 1998). In addition, the Bureau would like to secure an easement upstream and downstream of the diversion dam. Purchase of an easement or an acquisition is important in this location and couples nicely with other elements of this FY2000 proposal to acquire easements on riparian lands in Salmon Creek. One half mile of the creek above the diversion dam is adjacent to land that is undeveloped and undisturbed, except for proximity to the Salmon Creek Road. The tribal fish biologist offered this observation: "this reach of stream appears similar in quality and quantity of good habitat of reaches further upstream; there is good spawning substrate and bank stability, good canopy closure, and nice pools for rearing and staging" (Chris Fisher, personal communication, August 1998).

b. Rationale and significance to Regional Programs

The restoration and enhancement of anadromous fish populations and habitat in Salmon Creek, a tributary of the Okanogan River, a sub-basin of the Columbia River, carries out the objectives and measures of the 1994 Fish and Wildlife Program in numerous ways:

Section 4 (4.0A) states that the overall goal is doubling salmon and steelhead runs without loss of biological diversity. By working with the Okanogan Irrigation District (OID) and the Bureau of Reclamation (BOR) to improve fish passage at the irrigators' diversion dam, this would open up eleven miles of steelhead spawning and rearing habitat that was previously unavailable. In addition, the Washington Dept. of Fish and Wildlife (WDFW) is working with the irrigation district to fix the fish screen presently in place to ensure that steelhead are not trapped in the irrigation canal. Also the OID has developed a partnership with the Colville Tribes (CCT) and together are conducting a joint study "to assess the feasibility of increasing instream flows below the diversion dam while affording the OID the ability to deliver water to its users". This joint study will assess not only passage and migration, but also all life cycles of anadromous fish in Salmon Creek, and is thus congruent with 4.0C (biological objectives). The objectives of the salmon Creek project, when completed, are that viable steelhead and chinook populations will thrive in Salmon Creek as a result of public and private partnerships that protected the available habitat and restored habitat that was unstable. Thus habitat that was previously unavailable would be available. (Sections 4.1 and 4.1A). These actions meet the objectives of Section 7.6A and B (Habitat Goals & Habitat Policies) and 7.7A (Coordination of Watershed Activities), and 7.6C.5 (Incorporate restoration into regional and locally adpoted biological objectives through cooperation with land and water management agencies). Present habitat conditions will be studied, limiting factors will be assessed and documented, and recommendations for meeting the habitat

objectives outlined in Section 7.6D (habitat objectives) will be developed. In FY2000 funding is requested to implement some actions identified in the riparian analysis, and the tribes will commence development of a Salmon Creek Watershed Plan. Since this proposal is being written prior to the completion of that analysis, implementation may take place in phases.

There are approximately 33 private landowners in Salmon Creek in the rural unincorporated reaches of the creek (approx. 9 miles: Okanogan County Assessor's Office—unpublished data). Public outreach and education activities for Salmon Creek landowners have been conducted to illustrate excellent, intermediate, and poor habitat conditions. Because the number of landowners is relatively small, it is easy to become personally familiar with many of them. In 1998 a tour of the Omak Creek restoration was offered to Salmon Creek landowners. Ten Salmon Creek landowners toured Omak Creek and left with a much better understanding of what habitat restoration comprised. This left several of them with a desire to undertake similar projects on their own lands, since many of them faced severe stream bank erosion problems. One of the major landowners (in terms of acreage owned) approached the NRCS the following day to develop a Coordinated Resource Management Plan (CRMP) on his ranch (7.7A.6 Soil Conservation Service). At the request of several landowners who required Hydraulic Permits Application Approval by WDFW to deal with the effects of 1998 flooding, a tour by agency personnel representing multiple disciplines was conducted in Fall of 1998. One landowner, who owns a half-mile of creek frontage on Salmon Creek, developed a better understanding of geomorphological processes taking place on his land. He now would like to use his 106 acres to improve habitat by installing meanders through his property, and may be our first demonstration project (7.7 Cooperative habitat protection and improvement with private landowners). The Salmon Creek project is one of the model watersheds (7.7B.2). In FY 2000, we will begin to implement the previous years' planning in terms of the stream restoration with management and vegetative plantings (7.7B.3; 7.8D).

Salmon Creek drains a narrow valley, and the land holdings are split among relatively few landowners. Because of this there is an opportunity to work with some of the largest landowners to permanently protect the riparian corridor through land exchanges, conservation easements or fee simple acquisitions. The tribes would partner with other agencies to conduct these transactions on behalf of their respective agencies (7.8E; 7.8E.2 Land exchanges, purchases and conservation easements). Three agencies have expressed a strong interest in pursuing these activities in order to protect fisheries and riparian values (Bureau of Rec., Bureau of Land Mgmt., and the Wash. Dept. of Fish and Wildlife; letters of support, November 1998). Of the 14 miles between Conconully Reservoir and the mouth of the creek, approximately four of these miles are already protected: The three miles below the reservoir are comprised of pristine forested conditions and are owned by BLM. Another mile closer to the mouth is protected by the City of Okanogan, who has a well located at Salmon Springs. The tribes see the possibility of protecting up to five additional miles of the creek through partnerships with agencies who already manage lands within the watershed.

The Bureau of Reclamation, in order to modify the diversion dam to provide fish passage over it, must acquire an easement along the a half mile of Salmon Creek creek above and below the dam. The tribal fish biologist had made this statement about this section of stream: "this reach of stream appears similar in quality and quantity of good habitat of reaches further upstream; there is good spawning substrate and bank stability, good canopy closure, and nice pools for rearing and staging". (Chris Fisher, Colville Tribal Fish Biologist, personal communication, Aug. 1998). The land below the diversion dam is owned by the individual described in the paragraph above; he would like to undertake restoration work that provides benefits for fish habitat. These two activities—acquiring an easement above the diversion dam and conducting habitat restoration activities on private lands ½ mile below the diversion dam—would add one mile to the four already-protected miles of the 14 miles of the creek. The long-term goal is to place 4-5 additional miles in permanent protection through these protective mechanisms in perpetuity.

Under Section 7.7B.2 Model Watersheds of the FWP it states that "The Council understands that fully attaining a watershed approach will take decades, but incremental progress toward this end should be apparent every year. At the same time, the Council encourages experimenting with these approaches and recognizes that not all experiments will provide positive results. This is the essence of adaptive management, which is the basic premise of the program."

This section (7.7B.2) of the FWP is mentioned because the tribes' approach to form partnerships has been met with greater success than did the proposed formation of a Salmon Creek watershed council. Restoring and enhancing anadromous fish populations requires two components: one is scientific in nature; assessing present habitat conditions, defining limiting factors, prescribing remedies to enhance habitat, and developing a plan based on desired future conditions. There is scientific data that indicates Salmon Creek is an excellent candidate for enhancing and restoring anadromous fish populations, and this information has been presented above in Section 8. The second component is dealing with the political realities in conservative rural eastside communities. It would be impossible to restore anadromous fish populations in Salmon Creek without the cooperation of the Okanogan Irrigation District, whose irrigation activities provide the two major impediments to anadromous fish in Salmon Creek. The watershed coordinator believes that the success of the Salmon Creek restoration will ultimately hinge on our partnership with the irrigation district, and firmly believes that the progress shown to date supports this statement. The tribes also believe that once the data has been collected, it will be easier to work with people based on "knowns versus unknowns". This is why the FY2000 proposal leaves open the concept of forming a council or a landowner steering committee.

c. Relationships to other projects

The Colville Confederated Tribes Fish and Wildlife Department has been actively engaged in several recovery efforts of anadromous salmonids in the Okanogan River Basin. The Tribes have ongoing projects in Omak Creek, Salmon Creek, and Aeneas Creek. Relationships to other projects in tributaries of the Okanogan River include Evaluating an Experimental Re-Introduction of Sockeye Salmon into Skaha Lake.

Problem Identification in the Okanogan River Basin:

Cold water is an uncommon physical condition in the Okanogan River Basin. During 1998 water temperatures exceeded 80^{o}F in the mainstem of the Okanogan River (CCT, Fish and Wildlife Dept., unpublished data). The current water temperature regime in the mainstem of the Okanogan River is not conducive to supporting native salmonids. To successfully re-establish native salmonids in the Okanogan River, cool water sources must be restored or protected. Therefore, the restoration or conservation efforts directed toward the tributaries will begin improvement in reducing water temperatures in the Okanogan River.

These restoration efforts may also be beneficial to anadromous salmonids which use the Okanogan River as a migration corridor. Currently, sockeye (*Oncorhyncus nerka*) migrating up the Okanogan River, are often delayed by high water temperatures (> 21.5^{o}F). When water temperatures dip, the sockeye population swim the Okanogan River from the confluence to the north end of Lake Osoyoos (approx. 80 miles). By re-establishing flows in Salmon Creek, improving riparian habitat and increasing canopy closure along Omak Creek and conserving the water quality in Aeneas Creek, plumes of cold water would be delivered to Okanogan River and may provide thermal refuges for migrating sockeye. These cool water refuges may improve the survival of adults to the spawning area.

Omak Creek:

Restoration efforts within the Omak Creek watershed have been based on the Omak Creek Watershed Plan/Environmental Assessment (NRCS 1995)--a partnership between the Colville Tribes and the NRCS.

Omak Creek is located in Okanogan County, Washington, and is wholly contained within the Colville Reservation. The Omak Creek watershed has cultural significance to the twelve Colville Confederated Tribal Bands. Evidence of fish drying racks and nets were quite apparent in early photographs indicating fishing in the creek was important. Due to barriers, mid-stream reaches have been inaccessible by anadromous fish, and land management practices within the watershed have reduced the quality of fish spawning habitat. Therefore, anadromous stocks have virtually been non-existent in Omak Creek since the early 1900s.

The restoration efforts are, in part, to strengthen anadromous fish populations, particularly summer steelhead (endangered), in the upper Columbia River Basin. Omak Creek was surveyed in 1992 by personnel of the CCT Fish and Wildlife Department. The data collected estimated and described the physical condition of the instream habitat from the confluence of the Okanogan River upstream 12.2 miles (TFW Ambient Monitoring Stream Segment Summary 1992). The survey results indicated the habitat is in marginal condition, with most of the reaches evaluated for spawning habitat being embedded (Hanson 1992). Also, canopy closure exceeded 50% (57%) at one of the four reacehes surveyed. Consequently, water temperatures have been measured greater than 75^{o}F (lethal for juvenile steelhead) during 1997 and 1998 (CCT, Fish and Wildlife, unpublished data).

To improve the conditions in Omak Creek several restoration practices will be implemented. To minimize impacts caused by livestock, riparian areas will be protected by fences, hardened rock crossings and spring development. To assist in the recovery of riparian habitat and increase canopy closure and diminish the amount of actively eroding vertical banks, native woody plant species will be planted along non-vegetated and unstable banks, and instream structures, such as inverted vortex rock weirs and point barbs, will be constructed.By re-establishing summer steelhead in Omak Creek, the summer steelhead population in the Okanogan River Basin will strengthen and ensure the resilience of the species.

Salmon Creek:

Salmon Creek is a unique tributary of the Okanogan River. The Salmon Creek watershed is approximately 167 square miles in size, provides cool water (northeast aspect) in a basin that contains predominately warm water temperatures, and has historically contained renowned runs of anadromous fish (Mullan et al. 1992). In 1916, a diversion dam was constructed for irrigation. The dam is located approximately three river miles upstream of the confluence. This lower reach is typically de-watered except during spring run-off. Consequently, anadromous fish have not inhabited Salmon Creek since the early 1900s, though eyewitnesses report seeing steelhead in the 1980s trying unsuccessfully to get over the diversion dam (Bob Steele, WDFW, personal communication, 1998).

Salmon Creek is a logical choice to re-establish anadromous salmonids in the Okanogan River. Spawning gravels have been surveyed and depicted quality spawning habitat (mean 27.6% fine sediment (6.35mm); (Fisher and Feddersen 1998). Due to the lower 14 miles of Salmon Creek being charged by water which the Okanogan Irrigation District draws from a depth of approximately 80 feet from Conconully Reservoir, water temperatures remain consistently low (max. temp. 67^{o}F, 1997; max. temp. 65^{o}F, 1998 (CCT, Fish and Wildlife Dept., unpublished data).

Aeneas Creek:

The CCT has also been assisting WDFW in restoration and conservation measures along Aeneas Creek. Aeneas Creek is a tributary to the Okanogan River, and the confluence is south of Tonasket, Washington. Aeneas Creek contains cool water temperatures (max. 67^{o}F during 1998, CCT, Fish and Wildlife, unpublished data). Conservation measures to protect this unique resource have included organizing a stream survey team made up of local landowners and constructing livestock exclusionary fences. Future measures will include incorporating grazing strategies, spring developments, and improving fish passage.

d. Project history (for ongoing projects)

1997: Initiated the coordination of a watershed planning project to assist with the restoration and enhancement of the basin's anadromous fish resources through a locally-developed and integrated planning process. Conducted public education and outreach activities designed to raise awareness and support for restoration projects.

1997-1998: From the Spring of 1997 through the Spring of 1998, the watershed coordinator initiated several meetings between the Colville Confederated Tribes and the Okanogan Irrigation District (OID) to negotiate the terms of a parntership. Over the months other agencies participated in these meetings to further explain what types of studies were presently being undertaken in the Columbia Basin and what funding mechanisms for habitat restoration might be available. Participants in these meetings included the National Marine Fisheries Service, the Mid-Columbia Public Utility Districts, the Washington State Dept. of Fish and Wildlife, the U.S. Fish and Wildlife Service, the Bureau of Land Management, the Bureau of Reclamation and the U.S. Forest Service.

In May of 1998 the OID board of directors voted unanimously to enter into a partnership with the Colville Tribes. The OID appointed two board members and their manager to sit on a planning committee along with two tribal fish biologists; committee's work is being coordinated by the Colville Tribes watershed coordinator. The two entities agreed that they would jointly undertake a study on Salmon Creek by hiring a third-party, neutral consultant to conduct the scientific analysis. The partners agreed that their purpose was to "study the feasibility of restoring anadromous salmonid fish populations in Salmon Creek, while affording the OID the ability to fulfill water delivery service in accordance with its water rights."

The Joint Committee (representing the OID and the CCT) first met on July 1, 1998. Over the next several months they composed and advertised a scope of work, requested statements of qualifications from engineering and environmental consulting firms, requested proposals from the firms most qualified, and hired a consultant(s) in January, 1999. The consultant(s) will be expected to:

Ia. Collect and review all available informationdescribing the fisheries resources of Salmon Creek basin below Conconully Dam.

Ib. Summarize all available historical and current information describing anadromous fisheries resources, riparian and watershed conditions, and instream habitat in the Salmon Creek Basin below Conconully Dam. This information shall be included as a section in the report prepared by the consultant. Specifically, the report should summarize:

- Historical and current information describing fish habitat, water quality and water quantity, and riparian conditions within the Salmon Creek Basin, downstream of Conconully Reservoir
- Historical run sizes for anadromous fisheries that utilized the basin
- Conduct an Instream Flow Incremental Methodology (IFIM) study and identify/quantify instream flow requirements to support all life stages of anadromous salmonids, including channel maintenance flows, below the OID diversion dam

IIa. Conduct a review and an assessment of the current draft OID Water Conservation Plan. Identify additional conversation measures that will lead to improved management of existing and/or supplemental water supplies and provide sufficient water supply to satisfy the District's water users.

IIb. Propose and investigate alternate or additional opportunities to conserve water that may include: Improved water management through automation of the District's facilities, use of re-regulation water impoundment, alternative sources of water supply, miscellaneous opportunities that may be identified during the course of the work with the OID, incentive programs, water marketing

IIc. Develop planning level costs for implementing water conversation measures for capital construction and O&M.

III. Pprepare a Hydrological and Water Availability for Enhanced Instream Flow Study. Existing hydrological data shall be used to develop long-term continuous hydrological data sets for use with a sequential reservoir operation model. Hydrological data may be filled in or extended with a correlation to nearby streams and the Okanogan River or use pre-dam stream flow data from USGS records. The reservoir operation model shall be used to determine water availability for irrigation and recreation, and determine the frequency of deficiencies, under existing operating conditions and proposed alternative conditions. This task shall include the following:

A. Using tables and graphs, summarize the existing hydrological data in the vicinity.
B. Fill-in and extend the data by correlation.
C. Develop continuous long-term (30 years or more) monthly or daily hydrological data sets (approximately 90 years data available) by correlation for use with the reservoir operation model. Summarize the long-term hydrological data sets in tables and graphs.
D. Develop a sequential stream flow reservoir operation model capable of analyzing the existing system and potential proposed alternatives with a minimum of 80% reliability. The reservoir operation model will determine the water available for all uses for a continuous long-term period (approximately 90 years) including high-water and low-water years. The model will develop flow frequency and flow duration data at critical locations, such as the confluence of Salmon Creek and the Okanogan River as well as the diversion dam. The reservoir operation model should include graphs to enhance presentation of results.
E. Analyze the current and alternative water management operations strategies for water storage and release from the Conconully and Salmon Lake Reservoirs to determine the feasibility of meeting the OID water supply and instream flow for anadromous salmonids.
F. Determine alternative strategies (i.e. additional storage, supplemental supply), water exchange, i.e. supplementing water lost to the District in Salmon Creek from the Okanogan River, water banking, etc. and their feasibility for increasing water supply to ameliorate deficiencies of instream flow in reaches below the OID diversion dam. Develop alternative strategies and planning level cost and time estimates for achieving these goals.
G. Research and design a program for developing new supplemental water supplies. Describe opportunities for management of existing and/or supplemental water supplies to meet irrigation and instream flow requirements below the OID diversion dam. The plan should state program goals and objectives as well as illustrate tasks, schedules, milestones and planning level cost estimates of tasks for the proposed program(s).

1999: Environmental/Engineering consulting firm conducts studies on Salmon Creek and the Okanogan Irrigation District as part of OID/CCT Joint Study. In the consultant's final report (Phase they make recommendations on water conservation options, quantify instream flow requirements to cover all life stages of anadromous fish, and identify a range of alternatives to accomplish these goals, while maintaining the ability of the irrigation district to fulfill water delivery obligations in accordance with its water rights. The Colville Tribes and OID discuss and select a preferred alternative from options identified in the report that meet the objectives of both organizations. (FY2000: Consultant undertakes Phase II of the study and develops final feasibility study, conducts NEPA/SEPA. Colville Tribes and OID seek funding to implement preferred alternative(s) to meet restoration objectives). Phase I was funded in FY 1998; Phase II funding is requested for FY2000.

1999: Partnership with the Natural Resource Conservation Service (NRCS): The NRCS will conduct a physical stream survey to assess the habitat located between the Conconully Reservoir and the mouth of Salmon Creek in March of 1999. The NRCS' inventory will include: a geomorphic classification of the stream, identification of riffles to pools, presence or absence of large woody debris, identification of streambank erosion areas, riparian vegetation survey, examination of spawning gravel recruitment, identification of alternatives for treatmentThe NRCS will develop a report detailing recommendations and alternatives for improvements to the riparian zone, fish habitat, water quality and streambank stability.

1999: Partnership with the U.S. Fish and Wildlife Service and the NRCS: The Colville Tribes worked with both agencies to undertake demonstration projects by identifying private landowners who could contribute to habitat restoration by employing livestock exclusionary fencing, streambank stabilization techniques, such as barbs or weirs and bio-engineering methods. These projects would provide benefits to the landowner by reducing streambank erosion and provide benefits to fish habitat by reducing sedimentation in Salmon Creek. Bio-engineering techniques would also have a positive affect upon water temperatures. Out of this process we aim to not only develop inter-agency partnerships, but also partnerships with private landowners on a project-by-project basis. Jointly we will work with landowners who requested technical assistance from the state in order to deal with stream bank erosion problems caused by an unusually high spring runoff. The U.S.F&WS and the NRCS will combine their technical expertise to address some of these problems and develop demonstration projects from them.

e. Proposal objectives

1. Continue Partnership Between the Okanogan Irrigation District (OID) & Colville Confederated Tribes (CCT): FY2000 Funding Requested (1a-c below): $202,000

a. In 1998-1999 the OID & CCT formed a partnership to "study the feasibility of increasing instream flows in Salmon Creek while allowing the irrigation district to continue to meet its water delivery obligations". The partners formed a joint committee made up of the irrigation district manager, two OID board members and two tribal fish biologists. The work of the joint committee is coordinated by the tribal watershed coordinator. In 1998-1999, Phase I of the study was undertaken by a third-party, neutral consultant who was recruited and selected by the joint committee. The consultant was asked to develop a list of recommendations to meet the objectives described in the first sentence of this paragraph. The tribes anticipate that when the study is completed in summer of 1999, the partners will select one or more preferred alternatives. Once this decision has been made, Phase II of the study, with FY2000 funds, will be initiated. In Phase II of the study the consultant will provide greater depth to the feasibility of the preferred alternative(s). The refined analysis will include any capital or construction costs, timeframes, environmental impact analysis (NEPA), project benefits, operation and maintenance, labor, etc. FY2000 requested funds for Phase II of this study: $150,000

b. The assumption is that at the completion of Phase I of the study, the OID & CCT will have a better understanding of how we can accomplish the goal of restoring fish populations, increasing instream flows while protecting the irrigators' ability to meet its obligation to deliver water to its users and maintain their livelihoods. When both partners are ready to move forward with implementation and Phase II of the study, we will showcase this project in an attempt to demonstrate that you can have fisheries, instream flows and irrigation. Yet, the results of the study may bear a huge economic price to restore instream flows suitable to support all life cycles of anadromous fish. The tribes and the irrigation district do not believe that BPA and Northwest Power Planning Council must solely bear the costs for implementation of one or more measures. When an agreement has been reached as to what measures should be implemented, the tribes and the OID will organize a tour of Salmon Creek and the Okanogan Irrigation District. The tour would be offered to local, state, federal and tribal officials as well as managers of local, state and federal agencies to lobby for funding on one or more levels. FY2000 funding requested for this purpose is $2,000.

c. The irrigation district members of the joint committee have been reimbursed for their time spent on this project. This demonstrates to the irrigators that the tribes, BPA and the Northwest Power Planning Council value the irrigators' time and personal commitment to this important project. The Tribes would like to continue this reimbursement for their time as the project continues into Phase II. Total FY2000 funding requested for the continuation of the OID/CCT Partnership is $50,000.

2. **Continue Partnerships with Agencies to work with Private Landowners on Demonstration Projects: U.S. Fish and Wildlife Service (USFWS) and the Natural Resources Conservation Service (NRCS). No FY2000 funds are requested.**

   These projects carry over from FY1999 to undertake demonstration projects to stabilize stream banks and restore habitat on private lands. No additional funding is requested to continue this work in FY2000.

3. **Continue Partnership with Natural Resources Conservation Service (NRCS) to Implement Actions Outlined in FY1999 Salmon Creek Riparian Assessment. FY2000 Funding Requested: $100,000**

   Previous field work in Salmon Creek has shown that problem areas include: livestock grazing and lack of vegetative cover in the riparian area, stream bank erosion, and a dewatered channel. FY2000 funds are requested to implement priority projects identified in the riparian assessment. Funding may go towards the costs of labor and equipment, vegetation, exclusionary fencing and spring development. This work would be phased over a period of years since the planning has not been undertaken as of December 1998.

4. **Hire a Facilitator to Work with the Watershed Coordinator to Plan and Facilitate Public Outreach Activities and Help Form a Council or Landowner Steering Committee: FY2000 funds requested: $25,000**

- Hire a facilitator to work with the watershed coordinator to design a process to successfully engage the community in a manner that acts as a catalyst for future Salmon Creek restoration. The facilitator would facilitate not only the process but also the individual meetings. The tribes and facilitator would work with private landowners and residents in the City of Okanogan to build consensus around prioritizing projects for habitat restoration as well as land use planning, management and zoning (see zoning described in 5a below "minimum review district" in Salmon Creek).
- Work with private landowners: Develop education opportunities that bring landowners and various agency personnel together to explore the complex world of stream ecology, geomorphology and biology. Help residents to reach common understandings about watershed functions and values.
- Build upon the workshops and form a landowners advisory group or a watershed council to a) prioritize projects and monitor implementation of the stream assessment being conducted by the NRCS; b) sort through various alternatives and options for restoration of the creek, and c) to make recommendations to the City of Okanogan, Okanogan County and the Okanogan Irrigation District on future land management activities within the watershed. These would be incorporated into Item 6 Below (develop a Salmon Creek Watershed Plan).
- Salmon Creek landowners have shown an interest in watershed restoration techniques and in understanding the issues at hand. While previous efforts to form a watershed council were not successful, the tribes hope to form a committee/council that can work with the tribes, the NRCS, the USFWS and others to identify and prioritize projects. The long-term success of restoration in Salmon Creek will ultimately depend upon the ability to work collaboratively with Salmon Creek landowners.

5. **Partner with Agencies to Negotiate Land Exchanges, Conservation Easements or Fee Simple Acquisitions with Private Landowners (2,200 acres). FY2000 Requested: $1,850,000**

   Partner with agencies who already own and manage lands within Salmon Creek: the Washington Department of Fish and Wildlife (WDFW), Bureau of Reclamation (BOR), and Bureau of Land Management (BLM). FY2000 funding is requested to contract with BLM, WDFW, BOR to approach

private landowners to obtain land exchanges, conservation easements or acquisitions on approx. 2,200 acres adjacent to Salmon Creek in order to protect anadromous fish habitat in perpetuity. The Tribes are not proposing to acquire lands in Salmon Creek, but to contract with these agencies to acquire lands on behalf of their respective agencies. Each agency has expressed a strong interest in partnering with the tribes to protect the fishery values in the creek (letters of support, Nov. 1998). Acquisitions and easements would be done in phases, with FY2000 initiating Phase I. The agency who obtains ownership would develop plans for management and monitoring and evaluation with input from the tribes.

Programmatic Need to Protect Fisheries Habitat through Easements, Land Exchanges and Acquisitions

Salmon Creek flows 14 miles from the Conconully Reservoir to its confluence with the Okanogan River. Of this 14 miles, approx. 3 miles flow through pristine wilderness and 9.5 miles are rural and in the unincorporated area of the County. The remaining 1.5 miles are within the City of Okanogan. Ninety-nine percent of the unincorporated lands within Salmon Creek are held in large blocks (hundreds, if not, thousands of acres). However, land use zoning in Salmon Creek falls into a Minimum Review District; this means that zoning is limited to one-acre minimums, with a potential for one house for every acre. The possibility for subdivision, loss of open space, impact to the riparian corridor and fragmentation of riparian habitat under this zoning code could be detrimental. A plus to consider is that Salmon Creek drains a narrow valley that is only ¼-mile wide and is held by relatively few landowners. There are approximately 33 landowners with ownership adjacent to the creek in the 9.5 miles of the unincorporated area. Below is a characterization of the Salmon Creek Basin.

Stream Reach/Action Recommended	Owned by	Characterization
Conconully Reservoir to 3 miles Downstream: No action recomm.	BLM	Pristine, timbered area, approx. 6,800 acres
3rd to 4th mile downstream Work with owners to protect riparian/Acquisition or easement in riparian area	Mixed: state, federal, private	Some logging, mostly timbered, exhibits habitat complexity. Some creek frontage is presently for sale adjacent to BLM land; BLM is interested in acquisition or land exchange.
4th mile to 9th mile: Seek conservation easements in this reach; work w/landowners to restore riparian area	Private	Agricultural reaches: some canopied, some grazed to the streambanks, some eroded streambanks. The largest landholdings are within this reach.
9th – 10th mile Easement or fee simple acquisition in this reach	Private- for sale	Canopied & undeveloped above OID diversion dam, resembles good quantity & quality of habitat upstream: BOR interested in purchasing half; BLMinterested in purchasing half; both would protect riparian area
10th mile – 11th mile Work w/owner to improve habitat	Private	Somewhat channelized; owner wants to build meanders in order to improve habitat
11th-12th mile No action	City of Okanogan	City of Okanogan's Watershed at Salmon Springs. This will remain undeveloped and timbered in order to protect source of 1/5th of the city's drinking water supply
12th – 14th mile Work with Okanogan residents to restore riparian area once certainty of instream flows is attained	City of Okanogan	Below Salmon Springs there is little vegetation, cobbled substrate, somewhat channelized through town. Some of this area is upstream of town where it is undeveloped. There may be an opportunity to work with the town to restore the stream once a source of dedicated instream flows can be found.

Since four of the fourteen miles between the Reservoir and the confluence are already protected through ownership by the BLM and the City of Okanogan, by negotiating with a handful of private landowners for easements, acquisitions, or land exchanges, it may be possible to protect up to eight of these fourteen miles. Permanent protection to Salmon Creek and the government's investment in habitat restoration and enhancement would best be afforded by obtaining easements on parcels adjacent to the creek and preventing further development upon them. Conservation easements are the preferred approach to protection over fee simple acquisitions. This is in keeping with the NWPPC's 1994 FWP, Section 7.8E.1.

Relationship to other projects: Crucial Restoration Work Already Underway

Presently, the Bureau of Reclamation (BOR), the irrigation district and the WDFW are partnering on two crucial restoration initiatives in Salmon Creek. One of the two impediments to fish passage in Salmon Creek is the OID's diversion dam. The BOR has designed a fish ladder in order to provide fish passage to upstream spawning and rearing habitat. In addition the Bureau is working with the WDFW to make improvements to the fish screen located on the irrigation canal below the diversion dam (Pre-design Memoranda, July and August 1998). Both measures will be implemented in 1999 and will provide positive benefits for anadromous fish populations in Salmon Creek.

Because the BOR is making improvements for fish passage in Salmon Creek, they want to acquire an easement along the ½ mile of the riparian corridor above and below the diversion dam. Acquiring the easement would give the BOR the rights to construct the ladder for fish passage, manage the riparian zone for aquatic habitat, and tie-in with other restoration in the entire stream reach. This land, 160 acres, is presently for sale. However, the BOR is not interested in the entire parcel. BLM, on the other hand, is interested in half of it because BLM has land adjacent to this parcel. The BOR is committing $50,000 towards the purchase of either the easement or fee simple acquisition. Part of the funding requested is to help cover purchasing the entire parcel. BLM/BOR ownership would provide protection in perpetuity.

Technical background, Problem Identification and Logical Need to Address Benefits to Anadromous Fish:

Purchase of an easement or an acquisition is important in this location and couples nicely with other elements of this FY2000 proposal to acquire easements on riparian lands in Salmon Creek. The one-half mile of the creek above the diversion dam is adjacent to land that is undeveloped and undisturbed, except for proximity to the Salmon Creek Road. The tribal fish biologist, who snorkeled the area in 1998, offered this observation: "This reach of stream appears similar in quality and quantity to good habitat of reaches further upstream; there is good spawning substrate and bank stability, good canopy closure, and nice pools for rearing and staging." (Chris Fisher, personal communication, August 1998).

6. Develop a Salmon Creek Watershed Plan: FY2000 Funds Requested: $150,000

Convene a landowner steering committee or watershed council to work with the facilitator to compile a Salmon Creek Watershed Plan. Identify data gaps from previous studies, develop a scope of work, conduct any additional studies that are needed and prepare a watershed plan that provides for the future management of the Salmon Creek watershed from Conconully Reservoir to the mouth at Okanogan.

f. Methods

H. Since there is only one portion of this project associated with conducting a study (Phase II), and the results of Phase I are not in yet, it is not predictable to discuss methods of Phase II. All of the elements of the work to be carried out have been well-explained above.

g. Facilities and equipment

There are no facilities or equipment needs for this FY2000 proposal.

h. Budget

How does fish passage in Salmon Creek tie in to acquisitions, easements and land exchanges?
For years area biologists have felt strongly that steelhead and salmon recovery could occur in Salmon Creek if the fish could get over the diversion dam and if the lower 3.5 miles had water in it. The Bureau of Reclamation is planning to install a fish ladder at the diversion dam in 1999. Through the tribes' partnership with the Okanogan Irrigation District (OID), we are predicting that we will have certainty about how the goal of increased instream flows can be achieved by Summer of 1999. After 90 years of depleted fish populations in Salmon Creek due to the fish barriers mentioned above, we are close to being able to solve these problems.

In Section 8 of this document we describe the quality and quantity of spawning and rearing habitat for steelhead and salmon in Salmon Creek. This is the "Field of Dreams—If we build it, they will come". While fish passage and instream flows may be achievable in the near future, what do we do to protect the habitat, which is rated fairly highly, for the next 90 years and in perpetuity?

Through this proposal we have requested $1.85 million dollars to acquire conservation easements, land exchanges and fee simple acquisitions. The Colville Tribes do not wish to acquire lands in Salmon Creek, but the Washington State Dept. of Fish and Wildlife, the Bureau of Land Management and the Bureau of Reclamation absolutely do. By providing funding to contract with these agencies to acquire lands, the Bureau of Reclamation will be able to put in fish passage, manage the riparian zone for ½ a mile of Salmon Creek and tie-in restoration to the entire stream reach.

The Salmon Creek drainage below Conconully Reservoir is a small watershed not more than a ¼-mile wide and where only 33 people are landowners along 9.5 miles of creek frontage. A handful of these people are the major land holders. By providing the funding to work with some of these landowners to protect the habitat through purchase of development rights, you will be making a bequest that lasts forever. Conservation easements protect the unique rural character of the Salmon Creek watershed and allow family lands to be passed on to heirs. Another benefit to the landowner is that it would lower the estate taxes for the landowners' heirs.

OID/CCT Joint Study Phase II
We requested $150,000 for Phase II of the OID/CCT Study. It is not possible to determine what this study will consist of until Phase I is completed. $50,000 of this request is earmarked for NEPA analysis. The range of alternatives could include anything from improved water management and water delivery, alternative sources of water supply, additional water storage in the two Conconully Reservoirs, pumping water out of the Okanogan River, to incentive programs and water marketing. Obviously a feasibility study on any of these options would require differing levels of analysis.

Habitat Restoration
This proposal also requests $100,000 to have the NRCS implement priority actions outlined in their 1999 Salmon Creek Riparian Assessment. This will fund activities such as livestock exclusionary fencing, bank stabilization structures, revegetation of the riparian area, or spring development. These measures will help landowners partner with the government to ensure the long-term success of habitat restoration in Salmon Creek.

Compilation of a Salmon Creek Watershed Plan
We requested $100,000 to compile a watershed plan. In this request we make the assumption that we would hire an environmental consulting firm to compile previous literature and scope out remaining issues. Preferably this would be done in conjunction with a landowner steering committee or a watershed council.

Summary

In conclusion the Colville Confederated Tribes believe this proposal demonstrates that the objectives are clearly defined and achievable in the timeframes stated. Not only would the actions proposed provide momentous benefits to the target species, steelhead and chinook, but also would have no adverse significant reaction on non-target species. The fish ladder, the repair of the fish screen and the purchase of riparian lands are all benefits that would persist over the long term. In addition, this FY2000 proposal carries out goals and objectives of several watershed planning documents (See Section 6: References – references #4, 8, 9, 10, 11 & 12).

Section 9. Key personnel

Hilary Lyman, Watershed Coordinator, Colville Confederated Tribes Fish & Wildlife Department, 1 FTE/40 hours per week, resume below.

Chris Fisher, Anadromous Fish Biologist II, Colville Confederated Tribes Fish & Wildlife Department, .12.5 FTE, 5 hours per week, resume below

Hilary Lyman

EDUCATION: B.S. Degree in Environmental Education, Lesley College/National Audubon Society Expedition Institute, Cambridge, Mass., 1985

COLVILLE CONFEDERATED TRIBES/FISH & WILDLIFE DEPT. 1/97-Present

Watershed Coordinator

- Responsible for coordinating the development of a habitat restoration plan to provide for the re-establishment of anadromous fish to Salmon Creek
- Negotiated a crucial partnership agreement with the Okanogan Irrigation District
- Coordinated the development of a cooperative partnerships within Salmon Creek
- Built public support for watershed planning in the Okanogan Basin & Salmon Creek
- Developed positive working relationships with agencies, municipalities, interest groups and individuals
- Established a central base of communications and acted as public spokesperson
- Organized several public workshops: provided educational forums to explain the Endangered Species Act, fish habitat in Salmon Creek and watershed planning principles

KING COUNTY NATURAL RESOURCES DEPARTMENT 1996

Waterways 2000 Site Management Planning Coordinator

- Developed site conservation plans for natural areas in order to protect riparian corridors and fish and wildlife habitat
- Facilitated committee meetings for six interagency, multidisciplinary planning teams made up of ecologists, basin stewards, biologists, acquisition agents, and the public

METHOW VALLEY WATER PLANNING PILOT PROJECT 1992-1994

Project Coordinator: Methow Valley Water Planning Pilot Project

- Solely coordinated the development of a comprehensive water conservation/allocation plan for the Methow River Basin based on the Legislature-enacted Chelan Agreement
- Worked collaboratively with a water resources forum made up of participants with philosophically divergent viewpoints representing three governments, agriculture, business, the environment, fisheries and recreation
- Administered project budget of $300,000 and managed consultant contracts
- Established a central base of communications and acted as public spokesperson
- Presented at national and state association meetings on the Methow water planning project
- Managed public relations and education outreach activities

Christopher J. Fisher
P. O. Box 862
Omak, WA 98841
Ph: (509) 634-8689

Education:

University of Georgia	South Dakota State University
School of Forest Resources	Dept. of Wildlife and Fisheries Sciences
B. S. Forest Resources 1990	M. S. Wildlife & Fisheries Science 1996
minor Fisheries management	(Fisheries option)

Experience:

Job title: Anadromous Fisheries Biologist II
Employer: Colville Confederated Tribes, Nespelem, WA 99155

Duties: My duties include the management of anadromous fish stocks for population viability and subsistence for tribal members. I conduct and evaluate creel surveys, analyze catch data and develop regulations. I also participate planning and implementation for watershed restoration projects. I prepare correspondences and reports (monthly, quarterly, annually, and conditionally) needed to maintain good communications within the Tribal organization and Federal, State, and Tribal fishery agencies. I develop budget contract proposals, modifications, and reports as required by Tribal policy or established under contract agreements.

Job title: Fisher biologist
Employer: U.S. Forest Service, Okanogan National Forest (Jan 96 to Mar 97)
U.S. Forest Service, Boisen National Forest (Apr 94 to Nov 95)

Job title: Fishery technician
Employer: Idaho Department of Fish and Game, McCall (Jun 90 to Nov 91)

Job title: Research technician
Employer: School of Forest Resources, University of Georgia (Apr 88 to Sep 89)

Expertise:

By acquiring my education in the southwest and midwest and being employed by both state and federal agencies in three different regions of the country my experience in fisheries is extensive and diverse. My wide range of experience has provided me with expertise in collecting, analyzing and interpretinga variety of data and the ability to communicate the results of management activities and research to professional and civic groups via technical reports or presentations.

Section 10. Information/technology transfer

- Joint OID/CCT Phase II Study: The conclusions of Phase I of the study will be shared with landowners, community groups, agency personnel, state and U.S. legislators, etc. The purpose of sharing this information is to build support for the eventual implementation of Phase II of the study,

which could be quite costly. In addition, the watershed coordinator and the irrigation district manager will share conclusions of this study (success stories) by presenting at conferences on salmon recovery.

- All data collected on Salmon Creek, and previous literature referencing Salmon Creek, will be incorporated in the eventual Salmon Creek watershed plan.

Congratulations!